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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,369	02/12/2004	Fatih M. Ozluturk	I-2-0085.7US	4594
24374 7590 06/01/2007 VOLPE AND KOENIG, P.C. DEPT. ICC UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			EXAMINER TAYONG, HELENE E	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 06/01/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/777,369

Applicant(s)

OZLUTURK, FATIH M.

Examiner

Helene Tayong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a) in no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 7 is/are rejected.
- 7) ☒ Claim(s) 2-6 and 8-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/15/05 and 10/26/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1 and 7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 6 and 16 of U.S. Patent No. 6026117. Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims are broader recited of the patented claims.

For instance, in claim 1 of the present claimed invention and claim 6 of the '117 patent, the Applicants claim:

(i) "determining a first multi-bit number by dividing a parameter M by a parameter N, wherein M and N are integers and M is selected to be relatively prime to N" (see

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claim 1 a), whereas in '117 patent, the Applicant claim " selecting a first parameter M and a second parameter N where M and N are integers and M is relatively prime to N" (see claim 6 b);

(ii) "generating an I value and a Q value based on at least one of the first and second bits" (see claim 1d), whereas in '117 patent, the Applicant claim "generating an I and Q code from the first and second extracted bits" (see claim 6 f)

(iii) "dividing the parameter M by the parameter N to produce a resulting quotient input; bits" (see claim 7b), whereas in '117 patent, the Applicant claim "dividing M by a processing gain N to provide a quotient input" (see claim 16 b)

(iv) "extracting a first bit and a second bit from the resulting sum of step (c) "(see claim 7 d), whereas in '117 patent, the Applicant claim "extracting first and second bit from the result" (see claim 16d); and

(v) "generating an I value and a Q value based on at least one of the first and second bits" (see claim 7 e), whereas in '117 patent, the Applicant claim "generating I and Q data from the extracted first and second bits"(see claim 16e).

Thus, in respect to the above discussion, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of claims 1 and 7 of '117 patent as a general teaching mapping a pseudo-random code sequence to a quadrature phase shift keying (QPSK) signal constellation to perform the same function as claimed by the present application. The instant claims obviously encompass the claimed invention of '117 patent and differ only in terminology. To the extent that the instant claim are broaden and therefore generic to the claimed invention of '117 patent,

In re Goodman 29 USPQ 2d 2010 CAFC 1993, states that a generic claim cannot be issued without a terminal disclaimer, if a species claim has previously been claimed in a co-pending application.

Allowable Subject Matter

3. Claims 2-6 ,8-11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, Wu et al (US 6628727 B1) teaches a shift register and a look up table. However Wu et al does not teach an accumulator, mixer and an extractor.

Wu et al does not teach the second multi-bit number is greater than the first multi-bit number by a factor of two.

Wu et al does not teach or suggest the I value is equal to one when the first bit is equal to zero.

Wu et al does not teach Wu et al does not teach the I value is equal to negative one when the first bit is equal to one.

Wu et al does not teach setting the Q value to one by performing a logical function on the first and second bits resulting in a value equal to zero.

Wu et al does not teach setting the Q value to negative one by performing a logical function on the first and second bits resulting in a value equal to one.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wu et al (US 6628727 B1) discloses an apparatus and method for performing a $\frac{\pi}{4}$ -DQPSK baseband modulation based on a signal mapping to be simplified.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Tayong whose telephone number is 571-270-1675. The examiner can normally be reached on Monday-Friday 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lui Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

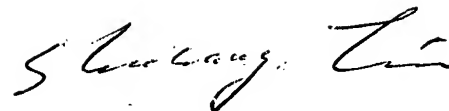
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Helene Tayong

5/11/07

A handwritten signature in black ink, appearing to read "Shuwang Liu". The signature is fluid and cursive, with the first name "Shuwang" and the last name "Liu" clearly distinguishable.

SHUWANG LIU
SUPERVISORY PATENT EXAMINER